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United States Patent [19]**Rohatgi et al.**[11] **Patent Number:** **5,375,321**[45] **Date of Patent:** **Dec. 27, 1994****[54] METHOD FOR FABRICATING FAN-FOLD SHIELDED ELECTRICAL LEADS**[75] Inventors: **Rajeev R. Rohatgi**, Mountain View;
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of Calif.[73] Assignee: **United States Department of Energy**,
Washington, D.C.[21] Appl. No.: **39,671**[22] Filed: **Mar. 30, 1993**[51] Int. Cl.⁵ **H05K 3/02**[52] U.S. Cl. **29/846; 29/830**[58] Field of Search 29/830, 846, 828;
439/496, 497, 77; 174/268**[56] References Cited****U.S. PATENT DOCUMENTS**

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Gaither; William R. Moser**[57] ABSTRACT**

Fan-folded electrical leads made from copper clad Kapton, for example, with the copper cladding on one side serving as a ground plane and the copper cladding on the other side being etched to form the leads. The Kapton is fan folded with the leads located at the bottom of the fan-folds. Electrical connections are made by partially opening the folds of the fan and soldering, for example, the connections directly to the ground plane and/or the lead. The fan folded arrangement produces a number of advantages, such as electrically shielding the leads from the environment, is totally non-magnetic, and has a very low thermal conductivity, while being easy to fabricate.

9 Claims, 1 Drawing Sheet